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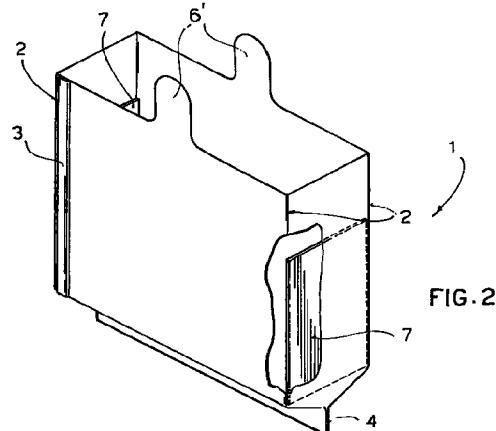
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### (54) Container made of flexible sheet material

(57) A container made of flexible sheet material, particularly for products with a solid consistency, obtained by successive folding and sealing of a sheet material and being substantially parallelepiped-shaped, the container (1) having, at two of its opposite facing side walls (16), respective reinforcing plates (7) and being provided with a bottom seal (4), subsequently folded and sealed on the bottom (8) of the container, to strengthen it, a system for opening by means of a pull tab (6) being provided at the top of the container.



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## Description

The present invention relates to a container made of flexible sheet material, particularly for products with a solid consistency.

Containers of flexible sheet material, for example of the so-called bellows type, are widely known and are used to pack products of various types, for example food products, such as granular and powdered products, or in any case those with a solid consistency.

They are made of single- or multi-layered material, one or both outer surfaces being heat-sealable, for example of polyethylene. The package is obtained, in a per se known manner, by successive folds, making transverse and longitudinal seals between the superimposed parts of the sealable layers.

A drawback of these containers is that they do not keep their shape, which is normally parallelepiped, unless they are vacuum packed and, in any case, if they are vacuum packed they tend to sag after opening.

To overcome this drawback, European patent No. 522326 in the name of Luigi Goglio, proposes a container stiffened with a base plate and a cover plate, which solves the problem of sagging of the container.

However, such a container requires a particular opening system, because of the presence of the top reinforcing plate, and, though being particularly suitable for use with products to be consumed in several portions, it is not suitable for other types of products for consumption in a single portion, or in any case that do not require tight closing of the container after it is opened for the first time.

The aim of the invention is to provide a container made of flexible sheet material that can be produced at a low cost, that maintains a substantially stiff shape and can be opened easily.

The aim is achieved, according to the invention, with the characteristics listed in appended claim 1.

Advantageous embodiments of the invention emerge from the dependent claims.

Substantially, the container of single- or multi-layered flexible sheet material, according to the invention, has respective reinforcing plates on the inside of two opposite sides, while the bottom of the container is reinforced by provision at the bottom of a fold and a seal made during formation of said container.

At the top, the container has a peel-back easy opening system.

Further characteristics of the invention will be made clearer by the detailed description that follows, referring to a purely exemplary and therefore non-limiting embodiment, illustrated in the appended drawings in which:

Figures 1 to 4 show successive stages in the formation procedure, of a container according to the invention;

Figure 5 is an axonometric view taken from the opposite side with respect to that in figure 4;

Figure 6 shows the container according to the invention with the upper edge folded to one side;

Figures 7 and 8 show opening of the upper edge of the container.

With reference to these figures, the container according to the invention has been indicated as a whole with reference number 1.

It is made from flexible sheet material, with one or more layers, capable, for example, of being heat-sealed on at least one face thereof.

The container 1 is obtained, according to a per se known method, by making folds along vertical fold lines 2 corresponding to the vertical corners, and making a vertical or longitudinal seal 3, which lies on one side face of the container, in particular in the vicinity of one of said vertical corners 2, so as to merge with said corner. A lower horizontal or transverse sealing or seal line 4 is then made, which is subsequently folded and sealed to the bottom wall of the container and an upper horizontal or transverse seal 5, thus obtaining the container as shown in Figures 4 and 5.

Before formation of the container 1, respective substantially rigid reinforcing plates 7 (visible in the detail in the section in Figure 1) are placed on the inside of two facing sides and serve to strengthen the container and ensure that it maintains its erect state.

The plates 7 can be made of any suitable material, but are advantageously made of cardboard, coupled for example with an outer heat-sealable layer, to allow it to be sealed on the inside to the flexible sheet material forming the container. Alternatively, the cardboard plates 7 can be glued to the sheet material of the container.

The lower seal and fold 4, involving about half of the bottom base 8 of the container, serves to strengthen said base.

The upper transverse seal 5 determines an edge 5', with a central pull tab 6 with a rounded end. The edge 5', which has a limited height with respect to the width of the upper base 10 of the container, is folded, together with the pull tab 6, on said base, and is sealed by means of an adhesive label 1, which sticks said tab 6 to the surface of the container 1.

The label 11 has no adhesive on the end portion, to facilitate detachment during opening of the container.

As shown in Figures 7 and 8, detachment of the label 11 from the surface of the container 1, which advantageously stays attached to the tab 6, causes the tab 6 and the edge 5' to lift (Figure 7).

The upper transverse sealing 5, advantageously, does not involve, or only partially involves, the tab 6, so as to leave at least an end portion not sealed, so as to facilitate gripping of the opposite free ends 6' of the tab 6 and allow opening of the container, by peeling open the upper sealing 5 which, to this end, is of the peel-back or easy-open type.

Lastly, to allow the contents of the container 1 to be

viewed, a transparent window 15 (Figure 5) can be provided on at least one of the side faces of said container, obtained by making an opening in the wall of the container and applying a transparent sheet on the inside.

The parallelepiped shape of the container 1 according to the invention is advantageously such as to have the bottom base 8 and the top base 10 elongated in the direction of said seal lines 4 and 5, so that the seal lines 4, subsequently folded and sealed to the bottom base of the container, can improve strengthening thereof. The reinforcing plates 7 are placed at the narrowest opposite side walls of the container 1 and the transparent window 15 is therefore made in at least one of the remaining wider side walls.

Though what described above is the preferred shape of the container according to the invention, it is obvious that different shapes can be foreseen as regards the size of the various walls.

### Claims

1. A container of flexible material, obtained by making in a sheet material successive folds and sealings, such as to give the container (1) a substantially parallelepiped shape, characterized in that reinforcement plates (7) are provided on two opposite side walls of said container (1), whilst on the bottom base (8) of the container a transverse seal is provided with subsequent folding and sealing of the folded edge.
2. A container according to claim 1, characterized in that said reinforcement plates (7) are placed on the inside of said opposite side walls of the container.
3. A container according to claim 1 or 2, characterized in that said plates (7) are heat-sealed to the sheet material of the container (1).
4. A container according to claim 1 or 2, characterized by the fact that said plates (7) are glued to the sheet material of the container (1).
5. A container according to any one of the preceding claims, characterized in that said plates (7) are of cardboard, possibly coated with a layer of heat-sealable material.
6. A container according to any one of the preceding claims, characterized in that provision is made at an upper seal (5) for an edge (5), with a gripping tab (6), both the edge (5') and the tab (6) being folded onto the surface of the container (1) and fixed to it by means of an adhesive label (11).
7. A container according to claim 6, characterized in that said label (11) has an end part without adhesive, to facilitate detachment.

8. A container according to claim 6 or 7, characterized in that said seal (5) does not involve at least part of said tab (6), so as to facilitate gripping of the two opposite ends (6') of the tab.
9. A container according to any one of claims 6 to 8, characterized in that said seal (5) is a peel-back or easy open seal, to facilitate opening of the container (1).
10. A container according to any one of the preceding claims, characterized in that on at least one of its side walls other than those bearing the plates (7) it has a transparent window (15).

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FIG.1

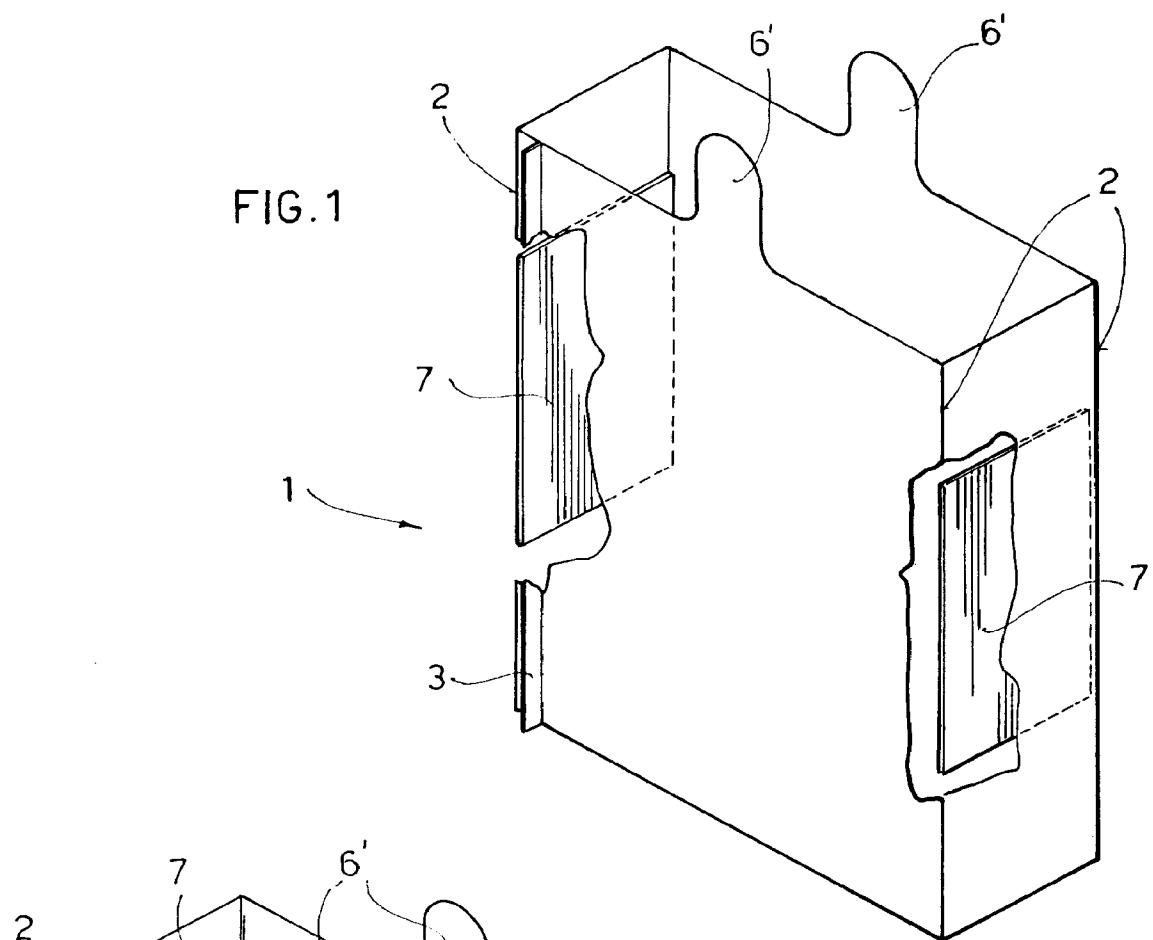


FIG.2

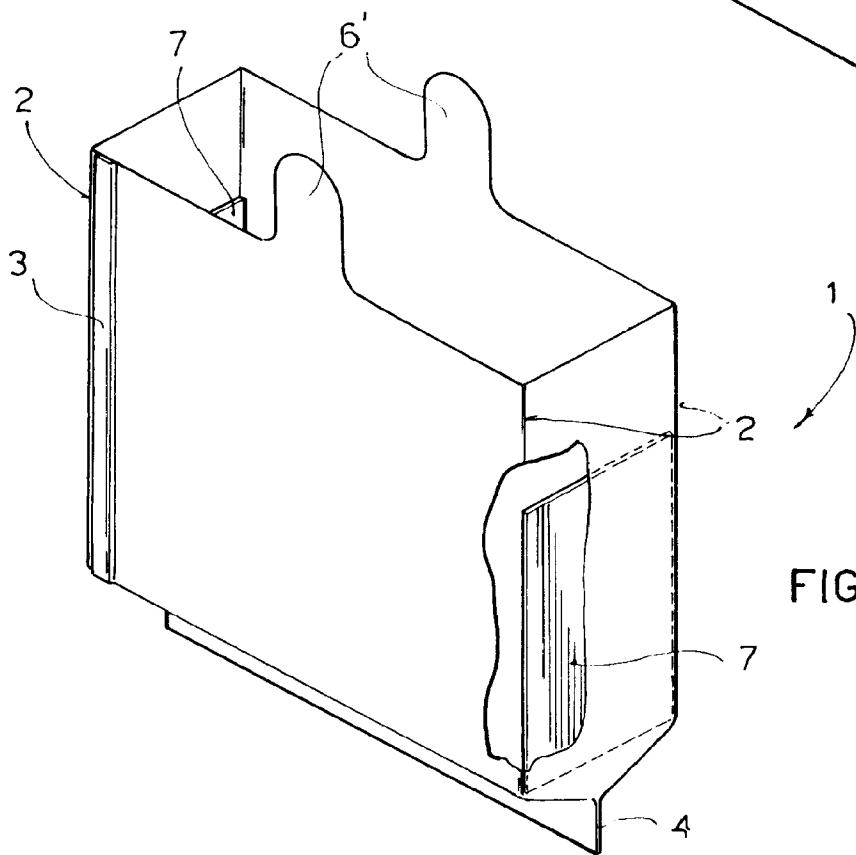


FIG. 3

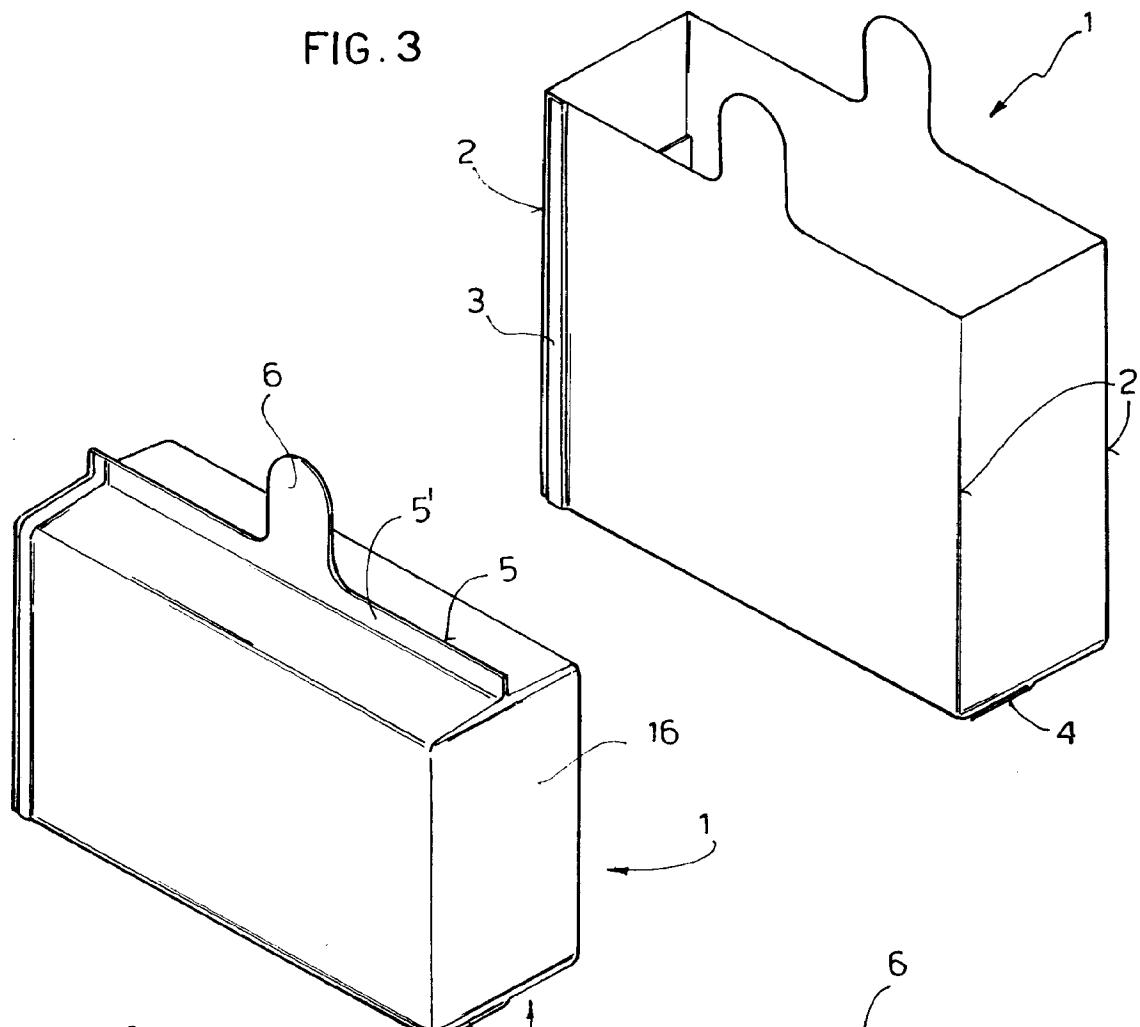


FIG. 4

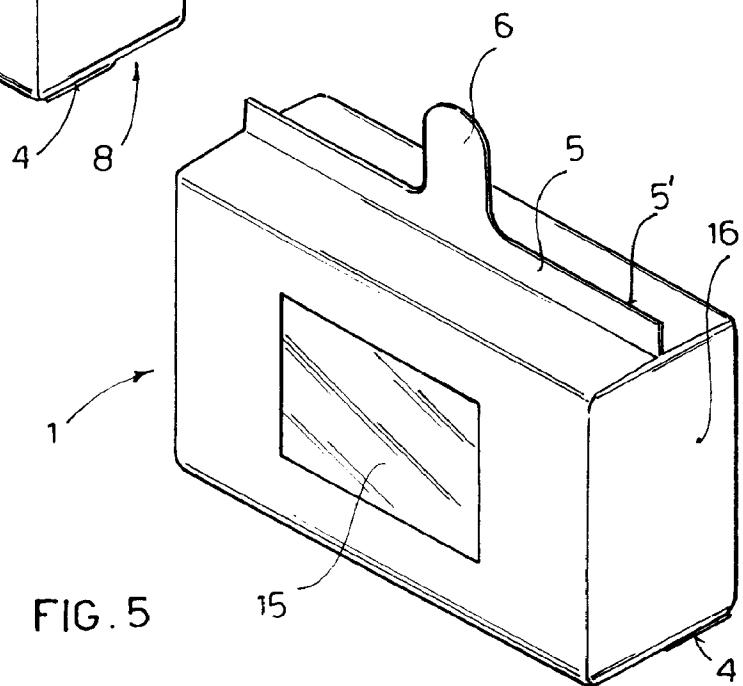
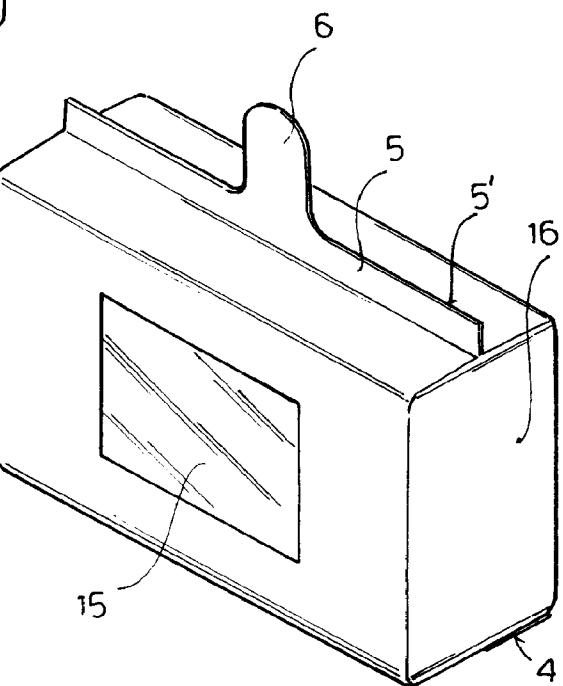


FIG. 5



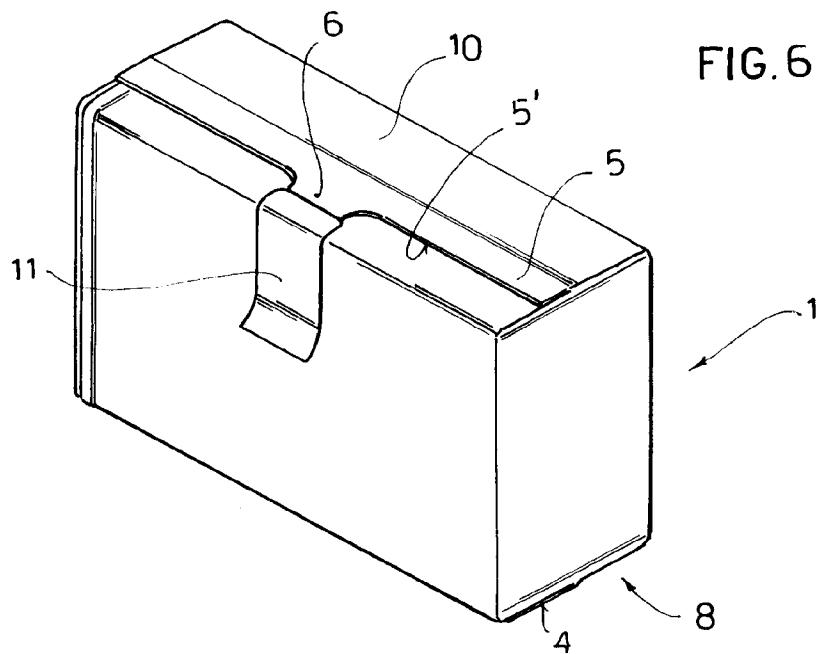


FIG. 6

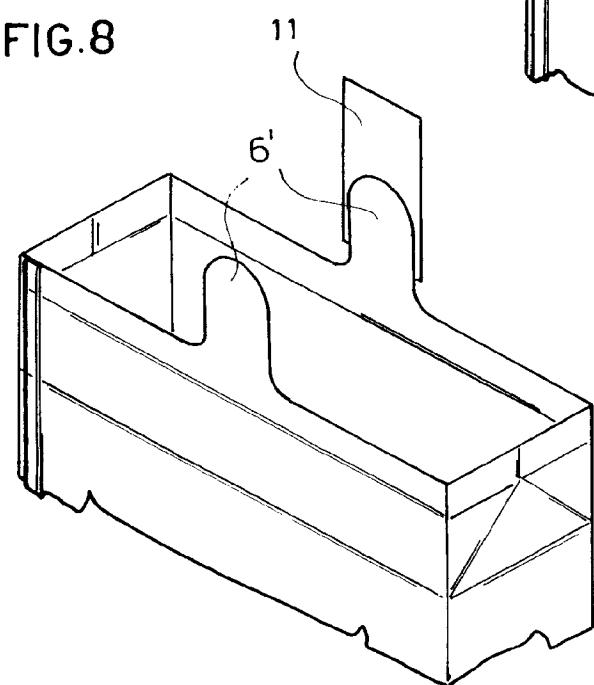


FIG. 8

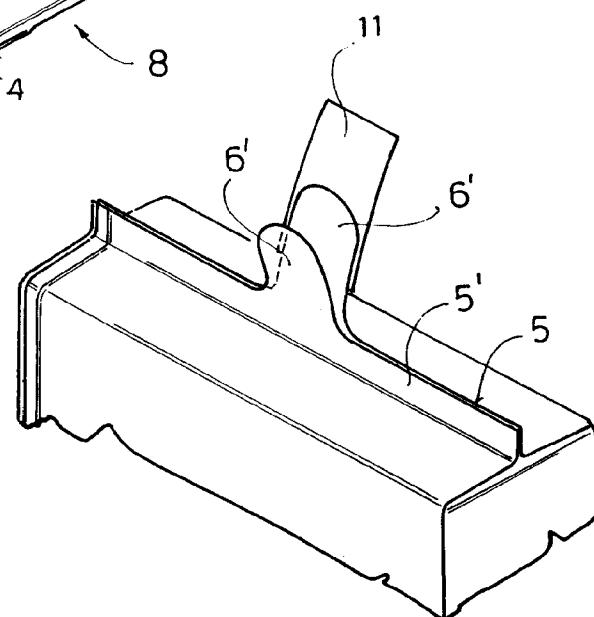


FIG. 7



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## EUROPEAN SEARCH REPORT

Application Number  
EP 96 12 0166

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X, P	PATENT ABSTRACTS OF JAPAN vol. 096, no. 008, 30 August 1996 & JP 08 091393 A (TOPPAN PRINTING CO LTD) * abstract * ---	1-3,5	B65D33/02 B65D33/16
X	GB 2 173 169 A (SENGEWALD)	1-3,5	
Y	* page 2, line 61 - line 103; figures 1-3 *	4,10	
Y	FR 2 193 745 A (HOLWEG S.A.) * page 2, line 20 - line 33; figures 1-3A *	4	
Y	US 1 814 685 A (JACKSON) * page 1, line 37 - line 64; figure 3 *	10	
X	US 2 678 768 A (VERGOBBI) * figures 1,2 *	1	
X	GB 766 160 A (GRAHAM & CO.LTD.) * page 2, line 22 - line 48; figures 1,2 *	1,10	
A	NL 48 053 C (N.V. TABAKSFABRIEK "DE OLDEHOVE") * figures 1-3 *	6	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	GB 300 470 A (WILSON) * figures 1,2 *	6	B65D
A	GB 2 081 676 A (LEAROYD PACKAGING) * page 1, line 35 - line 51; figure 1 *	1-5	
<p>The present search report has been drawn up for all claims</p>			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	10 April 1997	Berrington, N	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	
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